

STATE PIPELINE COORDINATOR'S OFFICE

- ☒ Department of Environmental Conservation
- ☐ Department of Natural Resources
- ☐ Department of Fish and Game

411 WEST 4th AVENUE, SUITE 2C
ANCHORAGE, ALASKA 99501
PHONE: (907) 278-8594
FAX: (907) 272-0690

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January 5, 1995

Letter No: 94-75-JG
File No: 300.16.411

CERTIFIED MAIL RETURN RECEIPT NO. P 335 846 048

Daniel Siekkinen, Manager
Greater Point McIntyre
ARCO Alaska, Inc.
P.O Box 100360
Anchorage, AK 99510-0360

Dear Mr. Siekkinen:

Re: Air Quality Control Permit to Operate No. 9473-AA025 for the Lisburne
Production Center

The Department of Environmental Conservation has received your June 30, 1994 request for renewal of the Lisburne Production Center air quality control permit to operate with minor operating changes and corrections, and your November 30, 1994 letter presenting comments to the draft permit prepared for the facility by the department. Based upon our review, the Department of Environmental Conservation finds:

1. The Lisburne Production Center is an existing facility which consists of nine gas-fired turbines, five gas-fired process heaters, six gas-fired drillsite heaters, one gas-fired emergency electric generator, two diesel-fired firewater pumps, and two emergency flares, and is a facility which includes a source described in 18 AAC 50.300(a)(2);
2. All sources are subject to 18 AAC 50.050(a)(1) for visible emissions, (b)(1) for emissions of particulate matter, and (c) for emissions of sulfur dioxide;
3. The turbines and gas fired heaters are subject to annual emission limitations for carbon monoxide and oxides of nitrogen established by previous PSD decisions;
4. The facility has allowable emissions of more than 250 tons of regulated air contaminants per year, and is a facility as described in 18 AAC 50.300(a)(6)

Air Quality Control Permit to Operate No. 9473-AA025 for the Lisburne Production Center

which has previously been reviewed under the Prevention of Significant Deterioration provisions of the Federal Regulation set out in 40 CFR 52.21. The estimated maximum potential emissions from the facility are approximately 2,207 tons per year of oxides of nitrogen, 626 tons per year of carbon monoxide, 263 tons per year of sulfur dioxide, and lesser quantities of other air contaminants;

5. The facility may be subject to federal New Source Performance Standards 40 CFR 60.100-.106 (Subpart J: Standards of Performance for Petroleum Refineries) and 40 CFR 60.630-.636 (Subpart KKK: Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants). These NSPS are not delegated to the State of Alaska.
6. The applicant has requested renewal of the existing permit on June 30, 1994. Two modifications to the facility as described by 18 AAC 50.900(28) were requested by the applicant in their June 30, 1994 letter. The first modification is to allow the three pieces of diesel-fired emergency equipment be operated 240 hours per year instead of 120 hours per year. The other modification is to allow assist gas be burned in the facility's two new flare tips so that they burn with less black smoke generation. These modifications have been included in this permit renewal and NO_x emissions are estimated to increase by 22 tons per year, with lesser amounts for the other regulated air contaminants.

Therefore, based upon our review, Air Quality Control Permit to Operate No. 9473-AA025 for the Lisburne Production Facility is granted and enclosed. This permit rescinds Air Quality Control Permit to Operate No. 9036-AA001.

Please note there are 24 conditions of the permit. Violation of any one of these conditions may result in termination, modification, reopening or revocation and reissuance of the permit in accordance with AS 46.14.280. The permit expires **January 30, 1996**, and you must request renewal at least thirty days prior to that date for continued operation of the facility. Violation of any condition of this permit may subject you to civil or criminal penalties as provided in AS 46.03.760, AS 46.03.765, AS 46.03.780, and AS 46.03.790.

Condition number 17 has been included in the permit to require a showing for compliance with the provisions of 18 AAC 50.110. This showing is required for all new permits, and for renewal applications if the showing has not been made previously. Since you have not demonstrated compliance in the renewal application, or that such a showing has been made previously, the permit is limited to a duration of 1 year, as required of the Department by 18 AAC 50.400(d)(2). If

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a showing is made within the one year period, then the permit will be administratively amended to extend the permit for the full five year period allowed by 18 AAC 50.400(d)(1). If such a showing has been made previously, then please submit that information to us for a determination as to whether the requirements of the showing have been fulfilled.

Permit conditions are stipulated pursuant to Air Quality Control Regulations 18 AAC 50, and are necessary to ensure that operation of your facility is consistent with the Alaska Air Quality Control regulations. This permit does not relieve you from the responsibility to apply for any other permit or approval required by the Department or the U.S. Environmental Protection Agency.

Department regulations provide that if you disagree with this decision you may request an adjudicatory hearing in accordance with 18 AAC 15.200-310. The request should be mailed to the Commissioner, Alaska Department of Environmental Conservation, 410 Willoughby Ave., Suite 105, Juneau, AK 99801-1795, by Certified Mail, Return Receipt Requested. If a hearing is requested one copy of the request should be sent to the Regional Administrator of the Department of Environmental Conservation, Pipeline Corridor Regional Office, 411 W. 4th Ave., Suite 2C, Anchorage, Alaska 99501. Failure to submit a request within thirty days of service of this letter shall constitute a waiver of your right to administrative review of this decision. In addition, any other person who disagrees with this decision may request an adjudicatory hearing within thirty days of service of these documents. Any hearing granted will be limited to issues related to these enclosed documents.

You are reminded that even if an adjudicatory hearing has been requested and granted, all permit conditions remain in full force and effect.

Sincerely,



Tom Chapple
ADEC Regional Administrator
Pipeline Corridor Region

TC/jg (PCRO - air\LIBUR94.1e1)

Enclosure: Air Quality Control Permit to Operate No. 9473-AA025

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Air Quality Control Permit to Operate No. 9473-AA025 for the Lisburne Production Center

cc w/encl: Al Bohn, ADEC/CO
Chris Meade, EPA/AOO-Juneau
Jim Greaves, ADEC/JPO

**ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AIR QUALITY CONTROL PERMIT TO OPERATE**

Permit No. 9473-AA025
Rescinds Permit No. 9036-AA001

Date: January 5, 1995

The Department of Environmental Conservation, under authority of AS 46.03, AS 43.14, 18 AAC 50.400, and 6 AAC 50 issues an Air Quality Control Permit to Operate to:

**ARCO ALASKA, INC.
P.O. BOX 100360
ANCHORAGE, ALASKA 99510-0360**

for the operation of the Lisburne Production Center at Prudhoe Bay. This permit is valid for the operation of only the equipment listed in Exhibit A and as described in Exhibits B through D and the documents listed in Exhibit E of this permit; where the permit differs or is more stringent, the permit requirement applies.

The facility is located in the Prudhoe Bay Oil Field in Section 19, Township 11N, Range 15E, Umiat Meridian, Prudhoe Bay, Alaska.

The following conditions apply:

1. Permittee shall comply with the State Ambient Air Quality Standards and Increments set by State Air Quality Control Regulations 18 AAC 50.020.
2. Permittee shall comply with the most stringent of applicable emission standards, limits and specifications set out in State Air Quality Control Regulation 18 AAC 50.050(a)(1), (b)(1), (c) and Exhibit B.
3. Permittee shall maintain and operate fuel burning equipment, emissions control devices, testing equipment and monitoring equipment in accordance with information contained in the documents listed in Exhibit E of this permit. In doing so, optimum control of air contaminant emissions during all operating periods shall be assured.
4. Permittee shall operate each of the three emergency diesel engines identified as Source Nos. 21-23 in Exhibit A of this permit, no more than 240 hours per year each.

5. Permittee shall operate the heaters identified as Source Nos. 10- 20 in Exhibit A of this permit at no more than 100% rated capacity.
6. Except as provided in Condition 7 of this permit, permittee shall conduct monthly testing of the fuel gas, as burned at the Lisburne Production Center, to determine the hydrogen sulfide (H_2S) content of the gas burned in the turbines and heaters as described in Exhibit C of this permit.
7. Whenever the H_2S concentration in the fuel gas, measured as required by Condition 6 of this permit, exceeds 168 parts per million, permittee shall test the gas, as burned, hourly until the concentration of H_2S falls below 168 ppm for 24 consecutive hours, at which time the permittee may return to the monthly testing schedule specified in Condition 6.
8. Permittee shall test the fuel gas burned in the drill site heaters monthly, to determine the concentration of hydrogen sulfide in the gas.
9. Permittee shall conduct a test of the fuel oil to determine sulfur content of the liquid fuel burned in the equipment listed in Exhibit A as described in Exhibit C of this permit.
10. Permittee shall calculate the total quantity of sulfur dioxide emitted from the facility each month based on the information obtained as required by Conditions 6 and 7 of this permit, and report the results in the Facility Operating Report required by Condition 20 of this permit.
11. Permittee shall install, maintain and operate a continuous monitoring system, as described in Exhibit C of this permit, to measure fuel consumption for sources in Group I identified in Exhibit A of this permit. For other sources the fuel consumption may be estimated.
12. Permittee shall neither modify nor replace any of the fuel burning equipment that would have an adverse affect on air contaminant emissions without first notifying the Department 30 days in advance. The notification must be in writing, and must include a description of the proposed change and an estimate of any change in the quantity of emissions of each regulated air contaminant which may occur as the result of the modification or replacement.

13. Permittee shall perform source tests of any source identified in Exhibit A of this permit, using the applicable method set out in 40 CFR Part 60 or 40 CFR Part 61, if requested by the Department to ascertain compliance with applicable standards and permit requirements.
14. Permittee shall submit a complete plan for conducting each series of tests required under Condition 13 of this permit to the Department's Pipeline Corridor Regional Office, 411 W 4th Avenue, Suite 2C, Anchorage, AK 99501 thirty days prior to conducting the tests.
15. Permittee shall give the Department written notice ten days' prior to each test or series of tests required under Condition 13 of this permit so that the Department's representative can be in attendance during the testing.
16. Permittee shall report the results of each required source test in the format set out in Volume III Section IV.3 of the State Air Quality Control Plan within 60 days after each set of tests.
17. Permittee shall submit to the Regional Administrator of the Department's Pipeline Corridor Regional Office, by January 30, 1996, a showing of compliance with 18 AAC 50.110. The showing must address all air contaminants emitted by sources at the facility, including those not listed in 18 AAC 50.020, and a summary of any complaints related to air contaminant emissions from sources at the facility received in the past ten years which are reasonably available to the permittee.
18. Permittee shall notify the Pipeline Corridor Regional Office at 271-4345 or Fax at 272-0690 within 24 hours when an equipment failure or abnormal operating condition occurs which may result in an increase in emissions of air contaminants, including incidents producing black smoke. Report the time and duration, nature of occurrence, amount and type of material burned or released, the results of any visible emission observations, and, if applicable, the steps taken to minimize emissions and avoid recurrence.
19. Permittee shall submit a written report to the Department's Pipeline Corridor Regional Office by the fifteenth of each month which summarizes the information required by Condition 18 for each incident occurring during the previous calendar month.

January 5, 1995

20. Permittee shall submit a quarterly Facility Operating Report, as described in Exhibit D of this permit, to the Department's Pipeline Corridor Regional Office, 411 W. 4th Ave., Suite #2-C, Anchorage, Alaska, 99501, by January 30, April 30, July 30, and October 30 each year.
21. Permittee shall maintain test results, monitoring instrument recorder charts, and other applicable data in an active file for not less than one year, and have them accessible on request to the Department for not less than three years.
22. Permittee shall have instructions on the proper operation of each source listed in Exhibit A of this permit available at any control monitor or in any control room for the equipment or at another location readily accessible to operators of the equipment and to any authorized representative of the Department.
23. Permittee shall provide access to the facility at any reasonable time, in accordance with AS 46.14.515, to the Department's representative and any other person authorized or contracted by the Department in order to conduct an inspection or tests to determine compliance with this permit and State environmental laws and regulations. The Department representative will abide by all health and safety related rules or procedures prescribed by the permittee, while approaching and within the permitted facility.
24. A copy of this permit shall be clearly displayed in the control room, and the State Air Quality Regulations 18 AAC 50 kept on file at the permitted facility.

This permit expires on **January 30, 1996**, and violation of any one of the conditions of this permit may result in termination, modification, reopening or revocation and reissuance of the permit in accordance with AS 46.14.280.

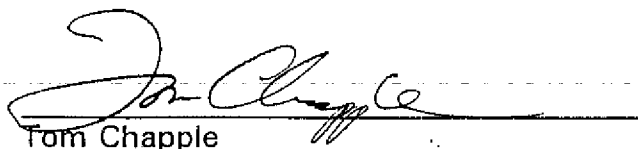

Tom Chapple
ADEC Regional Administrator
Pipeline Corridor Region

EXHIBIT A
ARCO ALASKA INC. - LISBURNE PRODUCTION CENTER
PERMITTED SOURCE INVENTORY

Permittee is authorized under this permit to operate the following stationary sources, and any other existing stationary source with a rated capacity of less than 1 million British thermal units per hour (MMBtu/hr). The design rating, capacity or throughput is set out in this Exhibit only for the purpose of aiding in the identification of the sources. Permittee must notify the Department prior to installing any new equipment of any size to determine the applicability of regulatory requirements.

<u>Number, ID</u>	<u>Equipment</u>	<u>Rating</u>
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Group I - Gas Turbines

1.	LPC-T1	Ruston TB 5000 refrigeration turbine	5,000 hp
2.	LPC-T2	Ruston TB 5000 refrigeration turbine	5,000 hp
3.	LPC-T3	Ruston TB 5000 refrigeration turbine	5,000 hp
4.	LPC-T4	GE 5382C gas injection turbine	38,000 hp
5.	LPC-T5	GE 5382C gas injection turbine	38,000 hp
6.	LPC-T6	Solar Mars turbine generator set	12,000 hp
7.	LPC-T7	Solar Mars turbine generator set	12,000 hp
8.	LPC-T8	Solar Mars turbine generator set	12,000 hp
9.	LPC-T9	Solar Mars turbine generator set	12,000 hp

Group II - Gas-Fired Heaters

10.	LPC-H1	BS & B TE-glycol reboiler	5.0 MMBtu/hr
11.	LPC-H2	BS & B TE-glycol reboiler	5.0 MMBtu/hr
12.	LPC-H3	ENTEC utility heater	30.0 MMBtu/hr
13.	LPC-H4	ENTEC utility heater	30.0 MMBtu/hr
14.	LPC-H5	ENTEC utility heater	64.4 MMBtu/hr
15.	DS1-H1	BS & B drillsite heater	25.0 MMBtu/hr
16.	DS2-H2	BS & B drillsite heater	25.0 MMBtu/hr
17.	DS3-H3	BS & B drillsite heater	25.0 MMBtu/hr
18.	DS4-H4	BS & B drillsite heater	25.0 MMBtu/hr
19.	DS5-H5	BS & B drillsite heater	25.0 MMBtu/hr
20.	DS6-H6	BS & B drillsite heater	25.0 MMBtu/hr

Group III - Diesel-Fired Equipment

21	LPC-EDE1	GN EMD 29F4B emergency generator	4,000 hp
22	LPC-EDE2	Caterpillar 3306T firewater pump	213 hp
23	LPC-EDE3	Caterpillar 3306T firewater pump	213 hp

Group IV - Flares

24	LPC-F1	High pressure emergency flare	
25	LPC-F2	Low pressure emergency flare	

EXHIBIT B
ARCO ALASKA INC. - LISBURNE PRODUCTION CENTER
AIR CONTAMINANT EMISSION LIMITS

The emission limits, fuel specifications and operating limits which are established in 18 AAC 50.040-.060, in a federal New Source Performance Standard or National Emission Standard for Hazardous Air Pollutants, as the result of a BACT determination or LAER determination, or as the result of an agreement pursuant to a request submitted under 18 AAC 50.300(e) are listed in **bold font**.

Emission rates or fuel specifications which are estimated from information in AP-42, manufacturer's specifications, design specifications of a control unit, source emission tests, fuel quality tests or specifications, continuous monitoring data or other reliable information are listed in italicized font. These limits are estimates and are not the result of a Best Available Control Technology (BACT) determination under 18 AAC 50.400(3)(A) or other enforceable requirements of law. They may be changed to reflect more accurate information as long as there is no modification of the source which affects the emission rate.

Exhaust conditions must be in accordance with the information submitted in documents listed in Exhibit E, unless otherwise specified in this Exhibit B. The emission and operational limitations are valid only for the normal operating conditions described in the documents listed in Exhibit E. All turbine emission limits and estimates refer to full load ISO conditions.

Operational Limitations

<u>Number / ID</u>	<u>Equipment</u>	<u>Operating Limit</u>
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Group III - Diesel-Fired Equipment

21 LPC-EDE1	GN EMD 29F4B emergency generator	240 hr/yr
22 LPC-EDE2	Caterpillar 3306T firewater pump	240 hr/yr
23 LPC-EDE3	Caterpillar 3306T firewater pump	240 hr/yr

EXHIBIT B (Cont.)
ARCO ALASKA INC. - LISBURNE PRODUCTION CENTER
AIR CONTAMINANT EMISSION LIMITS

Air Contaminant Source Class, or <u>ID Number</u>	Performance-based Operating/Emission <u>Limit or Estimate</u>	Annual Limit <i>or Estimate</i> <u>tons/year</u>
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Opacity

Gas Turbines, heaters and TE-glycol reboilers	10% opacity, not to be exceeded more than three minutes in any hour	
Diesel engines, drillsite heaters and emergency flares	20% opacity, not to be exceeded more than three minutes in any hour	

Particulate Matter

Gas Turbines, Heaters and diesel engines	0.05 gr/scf	89
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Oxides of Nitrogen

i. Source Nos. 1-3	117 ppmv corrected to 15% oxygen in exhaust	274
ii. Source Nos. 4-5	104 ppmv corrected to 15% oxygen in exhaust	1,163
Source Nos. 6-9	115 ppmv corrected to 15% oxygen in exhaust	657
iii. Source Nos. 10-11	0.16 lb/MMBtu	14
iv. Source Nos. 12-20	0.08 lb/MMBtu	102
v. Source Nos. 21-23	24 lb/1000 hp-hr	14
vi. Source Nos. 24-25 emergency flares, exclusive of emergency flared gas	-----	25

EXHIBIT B (Cont.)
ARCO ALASKA INC. - LISBURNE PRODUCTION CENTER
AIR CONTAMINANT EMISSION LIMITS

Air Contaminant Source Class, or <u>ID Number</u>	Performance-based Operating/Emission <u>Limit or Estimate</u>	Annual Estimated <u>tons/year</u>
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Sulfur Dioxide

i. Source Nos. 1-9	168 ppmv H ₂ S in fuel gas, not to be exceeded for more than 3 consecutive hours	157
ii. Source Nos. 10-14	168 ppmv H ₂ S in fuel gas, not to be exceeded for more than 3 consecutive hours	22
ii. Source Nos. 15-20	600 ppmv H ₂ S in fuel gas, not to be exceeded for more than 3 consecutive hours	78
iii. Source Nos. 21-23	0.2% S diesel fuel, annual average 0.25% S diesel fuel, maximum in any shipment	< 1
iv. Source Nos. 24-25	168 ppmv H ₂ S in pilot and sweep gas, not to be exceeded for more than 3 consecutive hours, exclusive of emergencies	12.5

Carbon Monoxide

i. Source Nos. 1-9	109 lb/MMscf fuel at 100% rated capacity corrected to ISO conditions, not to exceed 600 lb/MMscf at less than rated capacity and actual operating conditions	600
ii. Source Nos. 10-20	0.018 lb/MMBtu fuel	24
iii. Source Nos. 21-23	6.4 lb/hp-hr	4

Volatile Organic Compounds

All sources, exclusive of emergency use of flares		11
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EXHIBIT C
ARCO ALASKA INC. - LISBURNE PRODUCTION CENTER
PROCESS MONITORING REQUIREMENTS

Permittee shall install, calibrate, operate, and maintain in good working order air contaminant emissions and process monitoring equipment on the sources described below. Instrument siting, operation, and maintenance procedures must be approved by the Department and conform to the applicable sections of 18 AAC 50.520(a) and 40 CFR Part 60, Appendix B.

An alternate monitoring procedure may be proposed by the permittee for approval by the Administrator of the Department's Pipeline Corridor Regional Office, if it can be shown to accurately ensure continuous compliance with the emission limits and permit conditions.

<u>MONITORED SOURCE</u>	<u>INSTALLATION AND REPORTING REQUIREMENTS</u>
Gas Turbines	A fuel gas meter which indicates the volume of natural gas consumed by the Group I sources must be installed.
Fuel Gas	Determine the hydrogen sulfide content of the natural gas burned as fuel once month. Acceptable methods are ASTM D-4810-88, ASTM 4913-89, ASTM D-4294, and Gas Producers Association (GPA) method 2377-86.
Fuel Oil	Determine the sulfur content of the liquid fuel once each month. Acceptable methods are ASTM D-2622, ASTM D-2880-87, and ASTM D-4294. Supplier data may be acceptable.

EXHIBIT D
ARCO ALASKA INC. - LISBURNE PRODUCTION CENTER
FACILITY OPERATING REPORT

A Facility Operating Report shall be submitted to the Pipeline Coordinator's Regional Office, 411 W. 4th Ave., Suite #2-C, Anchorage, Alaska, 99501, quarterly by January 30, April 30, July 30, and October 30 of each year for the previous three month period. The report shall include the following information:

1. Facility identification: Name of company, facility name and location, and permit number
2. The date and period of time covered by the report.
3. Operating time and fuel consumption for each month: Include the number of days or hours of operation for each source identified in Exhibit A, the quantity of fuel burned in each group, and the total quantity of fuel burned at the facility, MMscf or gallons per month.
4. Representative fuel gas quality and emissions calculation: Report the concentration of H_2S (in ppm) measured in the representative fuel gas for each month. Report the estimated number of tons of SO_2 emitted by the facility for each month. Report any change in the type of fuel and tests or analyses performed.
5. Representative liquid fuel quality and emissions calculation: Report the concentration of sulfur (in percent) measured in the representative diesel fuel for each month. Report any change in the type of fuel and tests or analyses performed.
6. Signature of authorized agent preceded by the statement:

"I am familiar with the information contained in this report and, to the best of my knowledge and belief, such information is true, complete, and accurate."

EXHIBIT E
ARCO ALASKA INC. - LISBURNE PRODUCTION CENTER
PERMIT APPLICATION DOCUMENTATION

March 27, 1984 Mr. G. Scott Ronzio letter to Mr. Stan Hungerford, transmitting permit application entitled, "Prevention of Significant Deterioration (PSD) Permit Application for the Lisburne Development Project Near Prudhoe Bay, Alaska, March 1984, Final" prepared by Radian Corporation

Feb. 26, 1985 Mr. G. Scott Ronzio letter to Mr. Leonard Verrelli and Mr. Rob Wilson with enclosure entitled, "BACT Update for Gas-fired Turbines"

May 7, 1985 Mr. G. Scott Ronzio letter to Mr. Leonard Verrelli with attached document entitled, "Technical Note, Air Quality Analysis for the Engineering Refinement to the Lisburne Development Project, May 3, 1985"

January 30, 1986 Mr. T.R. Fink letter to Mr. Keith Kelton with comments the Department's Preliminary Air Quality Technical Analysis, November 6, 1985

Sept. 9, 1986 Mr. D.A. Heatwole letter to Mr. Keith Kelton commenting on proposed changes in certain permit conditions

Sept. 24, 1986 Mr. T.R. Fink letter to Mr. Keith Kelton describing design parameters of the flare system and preliminary plans for flaring during startup of the facility

July 26, 1989 Mr. James M. Short letter to Mr. Jack Coutts describing modification of the Flare System at Lisburne Production Center

August 31, 1989 Mr. James M. Short letter to Mr. Jack Coutts requesting renewal of Air Quality Control Permit to Operate No. 8536-AA020 and identifying three minor unpermitted sources

Nov. 27, 1989 Mr. James M. Short letter to Mr. Jack Coutts requesting amendment of Air Quality Control Permit to Operate No. 8936-AA010.

June 30, 1994 Mr. James M. Short letter to Mr. Jim Greaves requesting renewal and amendments to Air Quality Control Permit to Operate No. 9036-AA001.

EXHIBIT E (Continued)
ARCO ALASKA INC. - LISBURNE PRODUCTION CENTER
PERMIT APPLICATION DOCUMENTATION

November 30, 1994 Mr. James M. Short letter to Mr. Jim Greaves commenting
on draft Air Quality Control Permit to Operate No. 9473-
AA025.